

L1 ANSWER 7 OF 13 CA COPYRIGHT 2002 ACS  
 AN 128:92152 CA  
 TI Pozzolanic fillers for manufacturing hydraulic binders and concrete, and their use  
 IN Bid aux, Alain  
 PA Holderbank Financiere Glarus AG, Switz.  
 SO Patentschrift (Switz.), 4 pp.  
 CODEN: SWXXAS

DT Patent

LA French

IC ICM C04B014-00

ICS C04B028-00; C04B007-00

CC 58-1 (Cement, Concrete, and Related Building Materials)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CH 688550	A	19971114	CH 1994-1453	19940510
AB	The fillers contain ground glass, esp. SiO <sub>2</sub> (95 wt.% <40 and av. particle size <12 .mu.m; sp. surface area >5000 cm <sup>2</sup> /g). In the manuf. of portland cement, the ingredients are mixed before crushing and crushed together, or sep. crushed and then mixed, or may be mixed with the constituents of the concrete to be prepd.				
ST	ground glass pozzolanic filler cement; vitreous silica pozzolanic filler; portland cement pozzolanic filler; concrete pozzolanic filler				
IT	Concrete (compos. contg. glass powder as pozzolanic filler for manuf. of)				
IT	Pozzolans RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (ground glass, fillers; in portland cement and concrete manuf.)				
IT	Cement (construction material) (portland; compos. contg. glass powder as pozzolanic filler for manuf. of)				
IT	Glass powders RL: TEM (Technical or engineered material use); USES (Uses) (pozzolanic filler; in portland cement and concrete manuf.)				
IT	Fillers (pozzolanic, glass powder; in portland cement				

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L1 ANSWER 6 OF 13 CA COPYRIGHT 2002 ACS  
AN 131:148131 CA  
TI Use of ground waste glass and Normal portland cement mixtures for  
improving slurry and paste backfill support performance  
AU Archibald, J. F.; Chew, J. L.; Lausch, P.  
CS Department of Mining Engineering, Queen's University, Kingston, ON, Can.  
SO CIM Bulletin (1999), 92(1030), 74-80  
CODEN: CIBUBA; ISSN: 0317-0926  
PB Canadian Institute of Mining, Metallurgy and Petroleum  
DT Journal  
LA English  
CC 58-3 (Cement, Concrete, and Related Building Materials)  
Section cross-reference(s): 60  
AB Research has demonstrated that finely ground industrial and municipal  
container waste glass can be utilized as an effective partial pozzolanic  
replacement for Normal Portland cement (NPC) in various types of mine  
backfill at significant potential cost savings. Information is presented  
that summarizes comparative strength behavior of a variety of mine  
backfill products, from different mine sites, when manufd. in the forms of  
hydraulic slurry and paste backfill media. Strength comparison has been  
conducted for a range of NPC and ground waste glass-consolidated slurry  
and paste backfill products, with intercomparison also being made vs. 100%  
NPC-consolidated products as control std. materials. For slurry and paste  
backfill mixts., up to 35% of the Portland cement binder was replaced by  
ground waste glass material with excellent strength characteristics being  
developed. Ground waste glass has been shown to be capable of providing  
equiv. or better backfill strength characteristics with respect to Normal  
Portland cement in the long term, over cure intervals up to 224 days, and  
at potential cost savings of up to 50% being projected. The results of  
parametric studies to explore the sensitivity of ground waste  
glass pozzolans to variations in mixt. moisture content,  
tailings mineralogy, pozzolan size distribution, cure temp. and glass type  
are also presented. Consideration of the competitiveness of ground waste  
glass as a partial replacement for NPC and other commonly-utilized mine  
pozzolan materials is based upon assessment of material grindability and  
other economic factors.  
ST waste glass utilization mine backfill  
IT Solid wastes  
(glass; use of ground waste glass and Normal p

L1 ANSWER 5 OF 13 CA COPYRIGHT 2002 ACS  
AN 132:283140 CA  
TI Studies on concrete containing ground waste glass  
AU Shao, Y.; Lefort, T.; Moras, S.; Rodriguez, D.  
CS Department of Civil Engineering and Applied Mechanics, McGill University,  
Montreal, QC, Can.  
SO Cement and Concrete Research (2000), 30(1), 91-100  
CODEN: CENRAI; ISSN: 0008-8846  
PB Elsevier Science Ltd.  
DT Journal  
LA English  
CC 58-2 (Cement, Concrete, and Related Building Materials)  
Section cross-reference(s): 60  
AB The possibility of using finely ground waste glass as part replacement for  
cement in concrete was examd. through three sets of tests: the lime-glass  
tests to assess the pozzolanic activity of ground glass, the compressive  
strength tests of concrete having 30% cement replaced by ground glass to  
monitor the strength development, and the mortar bar tests to study the  
potential expansion. The results showed that ground glass having a  
particle size finer than 38 .mu.m did exhibit a pozzolanic behavior. The  
compressive strength from lime-glass tests exceeded a threshold value of  
4.1 MPa. The strength activity index was 91, 84, 96, and 108% at 3, 7,  
28, and 90 days, resp., exceeding 75% at all ages. The mortar bar tests  
demonstrated that the finely ground glass helped reduce the expansion by  
up to 50%. A size effect was obsd.; a smaller glass particle size led to  
a higher reactivity with lime, a higher compressive strength in concrete,  
and a lower expansion. Compared to fly ash concrete, concrete contg.  
ground glass exhibited a higher strength at both early and late ages.  
ST concrete ground waste glass pozzolanic activity  
strength development  
IT Expansion